

Owing to the imperfections of the descriptions of the species of the "Willemoesia group," already known, it is useless to attempt to point out which of the characters above alluded to are common to all the species or only specifically or generically (if there be more than one genus among the species now known) characteristic.

In regard to the openings of the green glands it may be well to notice that Willemoes-Suhm was unable to discover them in *Willemoesia leptodaetyla*. He might easily have overlooked them, however, if they were, as is probable, situated as in our species. One of Bate's figures of *Pentacheles anthrax* (Annals and Mag. Nat. Hist., V, ii, pl. 13, fig. 2, 1878) apparently shows the tubular process just as it exists in our species, although I find no reference to it in the accompanying text. Bate subsequently, however, appears to allude to this same process as "the olfactory tubercle of the second or outer antenna," though I cannot find that he anywhere alludes to Willemoes-Suhm's inability to discover the openings of the green glands.

NEW HAVEN, CONN., December 30, 1879.

#### DESCRIPTIONS OF SOME GENERA AND SPECIES OF ALASKAN FISHES.

By TARLETON H. BEAN.

The collections of the United States National Museum contain many Alaskan fishes, two of which are here described as new to science.

*Cottus polyacanthocephalus* Pallas.

This species has some points in common with *Boreocottus axillaris* Gill. I cannot find, in the description of the genus *Boreocottus*, anything to separate it from *Cottus*. The specimens here described are numbered 23499 in the Museum register. They were collected at Unalaska, by Mr. William H. Dall, and were catalogued in his notebook at No. 900.

#### LIST OF SPECIMENS.

- 23499 *a.* Length 185 millimeters without caudal.  
D. X, i, 14; A. 13; V. I, 3; P. 18.
- 23499 *b.* Length 138 millimeters without caudal.  
D. X, i, 13; A. 11; V. I, 3; P. 18.
- 23499 *c.* Length 142 millimeters without caudal.  
D. X, i, 14; A. 12; V. I, 3; P. (right) 18, (left) 16.

#### DIAGNOSIS.

B. VI. D. X. I, 13 to 14. A. 11-13. V. I, 3. P. 18.

Two small spines above the snout; one above each orbit, with four obscure ones behind it. A pair of small spines on the occiput. Three

preopercular spines, two of which are at the angle; the longer of these is half as long as the upper jaw, and extends nearly as far back as the opercular spine. The distance between the eyes equals their long diameter. The fourth spine of the first dorsal is as long as the intermaxillary band of teeth of either side, and is nearly  $\frac{1}{3}$  as long as the head. The ventral terminates at a distance from the vent, and is equal in length to the maxillary bone. The pectoral reaches to the end of the spinous dorsal, and to the vent. The length of the head is contained  $2\frac{1}{3}$  to  $2\frac{1}{2}$  times in the total length without caudal. The length of the upper jaw equals half the length of the head; the lower jaw is slightly longer, but is received within the upper. The ground color is dark brown; the sides and tail are more or less distinctly mottled and banded with yellowish. The spinous dorsal has two and the soft dorsal three oblique dark bands. The anal has four oblique dark bands, the first and last being very narrow. The pectoral has three irregular bands of dark brown intermingled with yellowish. The caudal is indistinctly banded with dark brown and tipped with yellowish.

*Melleles* gen. nov. *Cottidae*.

GENERIC CHARACTERS.—Head broad, depressed, rounded in front; body subcylindrical, compressed posteriorly; head naked, with a small number of cutaneous flaps, the two on the chin simulating barbels; a narrow band of scales following the dorsal outline of the body and uniting with its fellow around the origin of the spinous dorsal; body elsewhere naked with the exception of a few prickles on its anterior part below the lateral line; sides between the anal fin and the lateral line furnished with numerous small, pointed flaps covering minute depressions in the skin: lateral line as in *Cottus*. Two contiguous dorsals separated by a notch, the spinous dorsal being the higher; the membrane behind the second, third, and fourth spines deeply cleft; membrane extending higher than the spines. Pectorals subelliptical when fully expanded, the rays all single. Ventrals thoracic, immediately behind the pectorals, elongate, furnished with stiff setæ on their inner surface along the course of the rays. Jaws, vomer, and palatines armed with villiform teeth. Air-bladder absent. Stomach cæcal. Pyloric appendages in moderate number (6 in the type species). Branchiostegals 6.

*Melleles papilio* sp. nov.

The only specimen of this species in the Museum collection is the type of the present description; it is catalogued at number 23751 of the Museum Fish Register. The length of the example, measured to the origin of the middle caudal rays, is 185 millimeters. It is an alcoholic specimen in excellent condition.

DESCRIPTION.—By length of the body is to be understood its length from the tip of the snout to the origin of the middle caudal rays. The

\* *Μηλλήνητης*, a loiterer, from its habit of remaining in shallow pools when the tide recedes, where it is taken by hand in great quantities by the natives (*vide* Elliott).

body is moderately elongate, rather slender, somewhat compressed posteriorly, has a narrow band of scales close to its dorsal outline, and is otherwise naked with the exception of a few prickles on the sides. The head is naked; it has two small cutaneous appendages on the chin, one near the end of each maxillary, two above the eyes, two on the vertex, and one near the upper angle of each gill-opening. The branchiostegal membrane is free from the isthmus posteriorly.

The greatest height of the body (.25) is one-fourth of its length, and equals the length of the external caudal rays (.25); its height at the ventrals (.23) is contained  $4\frac{1}{3}$  times in the length. The least height of the tail (.07), equals the distance between the eyes (.07), and the length of the antecedent spine of the second dorsal (.07). The length of the caudal peduncle, measured from the end of the second dorsal to the origin of the middle caudal rays, equals half the length of the maxillary (.16).

The greatest length of the head to the end of the opercular flap (.37) is contained  $2\frac{2}{3}$  times in the length of the body, and equals twice the length of the mandible (.185); its greatest width (.23) equals the length of the base of the spinous dorsal (.23). The distance between the eyes (.07) is contained 3 times in the length of the second (.21) and third dorsal spines. The length of the snout (.09), or the distance from the end of the snout to the orbit (.09), equals the long diameter of the eye (.09), and half the length of the upper jaw (.18). The length of the maxillary (.16) equals twice the length of the caudal peduncle, and half the length of the anal base (.32). The length of the mandible (.185) equals half the length of the head, and is contained  $5\frac{1}{2}$  times in the length of the body.

There are two obtuse spines on the snout, two above the posterior parts of the orbits, and two on the vertex, the last four being provided with short filaments. I can find none on the spines of the snout. There are two minute, barbel-like filaments on the chin, and there is one short cutaneous tag close to the end of each maxilla and on the membrane at the upper angle of the gill-opening. The type is well preserved, but a little stiffened by long immersion in very strong alcohol.

The distance of the spinous dorsal from the snout (.30) equals  $2\frac{1}{2}$  times the length of its first spine (.12). Its length of base (.23) equals the greatest width of the head (.23). The second and third dorsal spines are equal, their length (.21) being contained nearly 5 times in the length of the body. The fourth dorsal spine is the longest (.22); its length is contained  $4\frac{1}{2}$  times in the length of the body. The length of the fifth dorsal spine (.20) is contained 5 times in the length of the body. The last dorsal spine (.055) is shorter than the antecedent spine (.07) of the second dorsal. The longest ray of the second dorsal (.175) is half as long as the distance of the pectoral from the snout (.345); the last ray (.035) is half as long as the antecedent spine.

The distance of the anal from the snout (.59) is nearly twice that of the spinous dorsal from the same point. The length of the anal base (.32) is twice that of the maxillary. The longest anal ray (.15) is twice

as long as the last (.075). The tips of the anal rays are free from the membrane, some of them for a distance equal to one-half the diameter of the orbit.

The length of the middle caudal rays (.235) is contained  $4\frac{1}{2}$  times in that of the body; the length of the external rays, four times.

The length of the longest pectoral ray (.395) is nearly twice that of the fifth dorsal spine; it extends to the vertical through the root of the sixth anal ray.

The distance of the ventral from the snout (.27) equals three times the long diameter of the orbit. The length of the longest ventral ray (.49) is nearly one-half that of the body; it extends to the vertical through the root of the seventh anal ray. The tips of the rays extend beyond the membrane, in one case about a third the length of the fin. The ventrals are furnished with stiff setæ on their under surface, following the course of the rays.

*Radial formula*: B. VI; 1st D. XI; 2d D. I, 20; A. 17; C. 11 (developed rays); P. 17; V. I, 4.

*Color*.—The ground color of the upper part of the body is a light grayish brown, on which are four markings of a darker brown, of which the first three are band-like and extend below the lateral line, while the fourth is widest below and sends only a narrow point below the lateral line. Between the third and fourth large body-markings there is a small blotch of similar color beginning at the lateral line and extending downward a distance equal to about  $\frac{1}{3}$  the long diameter of the orbit. At the base of the caudal is a band-like marking similar in color to the body-markings, and the posterior half of the caudal bears two obscure bands of brown; between the brown markings there is an area of yellowish white. The top of the head is sienna brown. The cheeks are brown of a darker tint than the rest of the head. The lower parts of the head are yellowish white, as are the bases of the pectoral and the anterior part of the belly. The lower parts of the body are grayish white, dotted here and there with spots of milky white. The largest of these milky white spots are not more than  $\frac{1}{2}$  as long as the orbit. The belly has some similar spots, resembling in this respect the male of *Cottus scorpius* subspecies *grönlandicus*, but the spots are much smaller than in that species. The spinous dorsal is mainly very dark brown with two light areas in its anterior and posterior parts. The second, third, and fourth body-markings are continued upon the soft dorsal; that proceeding from the fourth body-marking, however, is continued forward forming a margin for the upper posterior part of the soft dorsal. The ground color of the pectorals is a grayish brown. On this ground color the upper portion of the fin, on its anterior surface, has several bands of milky white bordered with sienna brown; the lower part of the anterior surface is mottled with nearly linear markings of sienna brown bordered with milky white. The markings of the posterior surface of the pectoral correspond in the main with those of the anterior surface; but the tips of the membrane between many of the rays are

milky white. The ventrals are streaked and spotted with sienna brown and milky white on both surfaces, the membrane close to the third ray having a regular alternation of these brown and white spots. The anal is grayish brown sparsely mottled with spots similar to those on the ventrals. The peritoneum is silvery white.

The length of the intestine is equal to the distance from the tip of the snout to the end of the anal fin. The genital papilla is short, about equal in length to the opening of the vent.

TABLE OF MEASUREMENTS.

*Melletes papilio* Bean.

Locality.....	Saint Paul's Island, Alaska, 1872. H. W. Elliott.		
	Milli- meters.	100ths of length to origin of middle caudal rays.	Times in length to origin of middle caudal rays.
Length to origin of middle caudal rays.....	185		
Body:			
Greatest height.....		25	4
Greatest width.....		18	
Height at ventrals.....		23	4 $\frac{1}{3}$
Least height of tail.....		7	14
Length of caudal peduncle.....		8	12 $\frac{1}{2}$
Head:			
Greatest length.....		37	2 $\frac{3}{4}$
Greatest width.....		23	4 $\frac{1}{3}$
Width of interorbital area.....		7	14
Length of snout.....		9	11
Length of operculum to end of flap.....		12	8 $\frac{1}{2}$
Length of upper jaw.....		18	5 $\frac{2}{3}$
Length of maxillary.....		16	6 $\frac{1}{2}$
Length of mandible.....		18 $\frac{1}{2}$	5 $\frac{1}{2}$
Distance from snout to orbit.....		9	11
Diameter of orbit.....		9	11
Dorsal (spinous):			
Distance from snout.....		30	3 $\frac{1}{2}$
Length of base.....		23	4 $\frac{1}{3}$
Length of last spine.....		5 $\frac{1}{2}$	
Length of first spine.....		12	8 $\frac{1}{2}$
Length of second spine.....		21	nearly 5
Length of third spine.....		21	nearly 5
Length of fourth spine.....		22	4 $\frac{1}{2}$
Length of fifth spine.....		20	5
Dorsal (soft):			
Length of base.....		42	
Length of antecedent spine.....		7	14
Length of first ray.....		14 $\frac{1}{2}$	7
Length of longest ray.....		17 $\frac{1}{2}$	nearly 6
Length of last ray.....		3 $\frac{1}{2}$	
Anal:			
Distance from snout.....		59	
Length of base.....		32	3 $\frac{1}{2}$
Length of first ray.....		13	nearly 8
Length of longest ray.....		15	6 $\frac{2}{3}$
Length of last ray.....		7 $\frac{1}{2}$	
Caudal:			
Length of middle rays.....		23 $\frac{1}{2}$	4 $\frac{1}{4}$
Length of external rays.....		25	4
Pectoral:			
Distance from snout.....		34 $\frac{1}{2}$	nearly 3
Length.....		39 $\frac{1}{2}$	2 $\frac{1}{2}$
Ventral:			
Distance from snout.....		27	3 $\frac{2}{3}$
Length.....		49	2
Branchiostegals.....	VI		
Dorsal.....	XI, i, 20		
Anal.....	17		
Caudal.....	11		
Pectoral.....	17		
Ventral.....	I, 4		

*Dallia*\* gen. nov. *Umbrida*?

Body oblong, covered with cycloid scales of small size with radiated striae; lateral line not conspicuous; eye smaller than in *Umbrida*; cleft of the mouth of moderate width. Ventrals inserted in front of the beginning of the dorsal, composed of three rays. Basis of anal as long as, or longer than, that of dorsal. Caudal fin rounded and many-rayed. Villiform teeth on the intermaxillaries, the mandible, the vomer, and the palatines. Pectoral rounded and many-rayed.

*Dallia pectoralis* sp. nov.

B. VII-VIII; D. 12-14; A. 14-16; V. 3; P. 33-36; C. 30-33.

The height of the body is contained 4 to  $4\frac{1}{2}$  times in its length without caudal; length of head  $4\frac{1}{4}$  to  $4\frac{1}{2}$  times. The eye is  $\frac{1}{7}$  to  $\frac{1}{6}$  as long as the head. The pectoral is  $\frac{1}{2}$  as long as the head to end of upper jaw, the ventrals  $\frac{1}{3}$  as long. The origin of the dorsal is twice as far from the end of the snout as from the origin of the middle caudal rays. The longest dorsal rays are a little more than half the length of the head. The anal begins almost directly under the origin of the dorsal and has nearly the same extent; its longest rays equal or slightly exceed the longest dorsal rays. The ventrals originate in advance of the dorsal and can be made to reach to or slightly beyond the origin of the anal. The vent is immediately in front of the beginning of the anal. About 77 scales in lateral line; 11 rows between the dorsal and the lateral line and 11 between the lateral line and the anal.

*Color*.—Dusky brown mottled with whitish, all the fins similarly colored, the dusky spots sometimes becoming confluent on the caudal and simulating bands; belly mainly whitish, but in some specimens thickly covered with small dusky spots.

#### LIST OF SPECIMENS.

- 23498 *a-g*. (collector's number, 1430) 7 specimens. St. Michaels, Alaska, Feb., 1877. L. M. Turner.
- 23498 *a*. D. 13; A. 16; V. 3; P. 36; C. 33; B. 8. Length 205 millimeters.
- 23498 *b*. D. 13; A. 14; V. 3; P. 33; C. 31; B. 7-8. Length 200 millimeters.
- 23498 *c*. D. 14; A. 15; V. 3; P. 33; C. 31; B. 8. Length 180 millimeters.
- 23498 *d*. D. 14; A. 14; V. 3; P. 33; C. 30; B. 7-8. Length 184 millimeters.
- 23498 *e*. D. 13; A. 14; V. 3; P. 35; C. 30; B. 8. Length 175 millimeters.
- 23498 *f*. D. 14; A. 14; V. 3; P. 35; C. 30; B. 8. Length 170 millimeters.

\*Dedicated to Mr. W. H. Dall, of the United States Coast Survey, in appreciation of his contributions to the zoölogy of Alaska.

23498 *g.* D. 13; A. 14; V. 3; P. 35; C. 31; B. 8. Length 167 millimeters.

6661. 17 specimens. St. Michaels, Alaska. H. M. Bannister.

*a.* Length 210 millimeters. D. 13; A. 14; V. 3; P. 33; C. —; B. 8.

*b.* Length 200 millimeters. D. 14; A. 14; V. 3; P. 35; C. —; B. 8.

*c.* Length 135 millimeters. D. 12; A. 14; V. 3; P. 35; C. 30; B. 8.

The remaining fourteen specimens vary in length from 110 to 180 millimeters.

UNITED STATES NATIONAL MUSEUM,  
Washington, January 5, 1880.

**FOURTH INSTALMENT OF ORNITHOLOGICAL BIBLIOGRAPHY:  
BEING A LIST OF FAUNAL PUBLICATIONS RELATING TO BRITISH BIRDS.**

By DR. ELLIOTT COUES, U. S. A.

The Appendix to the "Birds of the Colorado Valley" (pp. 567 [1]-784 [218]), which gives the titles of "Faunal Publications" relating to North American Birds, is to be considered as the *first* instalment of a "Universal Bibliography of Ornithology".

The *second* instalment occupies pp. 239-330 of the "Bulletin of the United States Geological and Geographical Survey of the Territories", Vol. V, No. 2, Sept. 6, 1879, and similarly gives the titles of "Faunal Publications" relating to the Birds of the rest of America.

The *third* instalment, which occupies the same "Bulletin", same Vol., No. 4 (in press), consists of an entirely different set of titles, being those belonging to the "systematic" department of the whole Bibliography, in so far as *America* is concerned. Here come the titles of all publications relating to particular species, genera, or families of American Birds, systematically arranged, *by families*, and in chronological order.

These three previous instalments represent a nearly complete Bibliography of *American* Ornithology.

This present, *fourth*, instalment of the work is of the same character as the first two: that is, it relates to "regional" or "faunal" as distinguished from "systematic" ornithology; and it undertakes to do for *British* Birds what the first two did for *American*.

That is to say: here belong the titles of all publications treating of British Birds as such, exclusively, and indiscriminately or collectively. In publishing these preliminary instalments, it is necessary to draw a hard and fast line between those titles which are and those which are not to be found in each one of them—a line which would be very evident to one cognizant of the plan of the whole Bibliography, though by no means obvious at first sight. It is therefore necessary for me to be explicit here.

In order to fall within the scope of this fourth instalment, a publica-